

Remarks

The Applicants have cancelled non-elected Claims 1 – 12 and 28 – 38 without prejudice and without disclaimer of the subject matter therein. The Applicants specifically reserve the right to file one or more divisional applications directed to the subject matter of the cancelled claims.

The Applicants have amended the Specification to correct several minor grammatical errors and to update the format of the Application.

Various of the claims have been amended as follows: Claim 15 has been amended to recite “carbon” reinforcing fibers. Support may be found in the Applicants’ Specification in the paragraph spanning pages 63 and 64, for example. Claim 15 has also been amended to recite that the auxiliary yarn has a “yield of 2 tex or less.” Support may be found in the Applicants’ Specification at page 47, lines 16 – 17 and elsewhere. Claim 15 has further been amended to recite “interlamina-resin material.” Support may be found in the Applicants’ Specification such as at page 19, lines 13 – 15, and the paragraph spanning pages 49 and 50, for example.

Appropriate corresponding amendments have been made to all of the remaining claims so that they are in conformance with the changes made to Claim 15. Entry into the Official File is respectfully requested.

The Applicants note the rejection of Claims 15 and 22 – 24 over the hypothetical combination of Nishimura with Winkler. The Applicants note with appreciation the Examiner’s detailed comments concerning the hypothetical application of Winkler and Nishimura to those rejected claims. The Applicants respectfully submit that one skilled in the art would not make the hypothetical combination and that, in any event, the resulting combination would still fail to teach or suggest the subject matter of those rejected claims. Detailed reasons are set forth below.

The Applicants' Specification teaches the claimed resin material improves not only form stability and handling ability of the reinforcing fiber substrate (which corresponds to the bonding strength described in Nishimura), but also the impact resistance (interlamina-toughening) and impregnation. This advantage is not described, taught or suggested in Nishimura.

Although the rejection points out that Nishimura discloses the bonding strength due to the bonding material, there appears to be some confusion regarding the meaning of the "bonding strength" described in Nishimura with the meaning of the impact resistance (interlamina-toughening) in the rejected claims.

The bonding strength described in Nishimura relates to the form stability and handling ability (easiness of lamination) of the woven fabric itself before impregnating a matrix resin. It is completely irrelevant to the property of a composite having been impregnated with a matrix resin and cured. On the other hand, the impact resistance (interlamina-toughening) in the rejected claims is to strengthen the interlamina in a composite in which a matrix resin has been impregnated into a fiber substrate and cured. Therefore, both terms are completely different in meaning from each other. The Applicants respectfully submit that the amendments to Claim 15 clarify this claimed difference.

The Applicants therefore respectfully submit that one skilled in the art would not make the hypothetical combination of Nishimura with Winkler in an attempt to develop a reinforcing fiber substrate in accordance with Claim 15. On this basis alone, the Applicants respectfully submit that the rejected Claims 15 and 22 – 24 are in condition for allowance.

However, there is another difference. The Applicants have specified that the reinforcing fiber yarn has a yield of 2 tex or less. This is sharply contrasted to the teachings of Winkler, which provide a thermoplastic filament in a range of 5 to 2,500 tex. There is clearly no overlap

between the two and it is clear from a fair reading of Winkler that there is no teaching or suggestion to move outside the lower range towards the claimed range. This is especially true since the Applicants have discovered that a yield of 2 tex or less associated with the auxiliary yarn surprisingly reduces the crimp of the reinforcing yarns. This is a result of the impact of the auxiliary yarns being reduced to such a low level that their impact is negligible, which translates into a reduction of the crimp of the reinforcing yarns. There are no teachings or suggestions of such an impact in Winkler and, therefore, one would have no incentive to further modify Winkler in the manner specifically recited in Claim 15.

The Applicants respectfully submit that, even if one skilled in the art were to hypothetically combine Nishimura with Winkler, the result would be a yield of 5 to 2,500 tex, which is not what the Applicants claim in Claim 15. Therefore, combining Nishimura with Winkler would yield a product that is still outside of the claimed range. There would need to be further modifications which are neither taught nor suggested by either reference, once the combination of the two had been made. The Applicants respectfully submit that such further modification violates the requirements for sustaining a rejection based on §103. The Applicants therefore respectfully submit that Claims 15 and 22 – 24 are patentable whether Nishimura is combined with Winkler or not. Withdrawal of the rejection is respectfully requested.

The Applicants acknowledge the rejection of Claims 16, 17 and 22 over the further hypothetical combination of Nishimura ‘160 with Nishimura and Winkler. The Applicants respectfully submit that further hypothetically combining Nishimura ‘160 with Nishimura would do nothing to cure the deficiencies as set forth above with respect to the earlier Nishimura/Winkler combination. For example, further hypothetically combining Nishimura ‘160 with Nishimura and Winkler would still result in a yield of 5 to 2,500 tex, which is not the same as the Appli-

cants' claimed 2 tex or less. Withdrawal of the rejection of Claims 16, 17 and 22 is respectfully requested.

The Applicants note the rejection of Claims 18 and 22 over the still further hypothetical combination of Lewis and Bockrath with Nishimura '160 and Nishimura with Winkler. The Applicants respectfully submit that the further hypothetical combination of the fourth and fifth references to Lewis and Bockrath with the first three references to Nishimura '160, Nishimura and Winkler would still fail to cure the deficiencies set forth above with respect to the Nishimura/Winkler combination. For example, the resulting combination would still have a yield of 5 to 2,500 tex, which is outside of the Applicants' claimed range of 2 tex or less. Withdrawal of the rejection is respectfully requested.

The Applicants note the rejection of Claim 19 over the further combination of Heck with Nishimura and Winkler. The Applicants respectfully submit that further hypothetically combining Heck with Nishimura would do nothing to cure the deficiencies as set forth above with respect to the earlier Nishimura/Winkler combination. For example, further hypothetically combining Heck with Nishimura and Winkler would still result in a yield of 5 to 2,500 tex, which is not the same as the Applicants' claimed 2 tex or less. Withdrawal of the rejection of Claim 19 is respectfully requested.

The Applicants note the rejection of Claims 15 – 17 and 22 – 24 over the hypothetical combination of Winkler and Nishimura with Nishimura '160. The Applicants have already essentially addressed this rejection, merely in a different order in addressing the second above-mentioned rejection. As a consequence, the Applicants respectfully submit that hypothetically combining Winkler and Nishimura with Nishimura '160 would fail to teach or suggest the subject matter of Claims 15 – 17 and 22 – 24. For example, the combination would still result in a

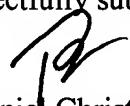
reinforcing fiber substrate having a yield of 2 tex or less. In sharp contrast, the Winkler reference specifically teaches 5 to 2,500 tex, which is outside of the claimed range. The Applicants therefore respectfully submit that the resulting combined Winkler/Nishimura/Nishimura '160 product would still have a tex outside of the Applicants' claimed range. Withdrawal of the rejection is respectfully requested.

The Applicants note the rejection of Claim 18 over the further hypothetical combination of Lewis and Bockrath with Winkler, Nishimura and Nishimura '160. The Applicants have already addressed the failure of that combined subject matter to teach or suggest the claimed yield of 2 tex or less---albeit in a different order. Reordering of the references within the rejection does nothing to change the failure of the combined disclosure to teach or suggest the claimed yield of 2 tex or less. Withdrawal of the rejection is respectfully requested.

The Applicants note the rejection of Claim 19 under the further hypothetical combination of Heck with Winkler, Nishimura and Nishimura '160. All of these references have already been addressed in the earlier rejection of Claim 19---albeit in a different order. The Applicants respectfully submit that reordering the references does not change the fact that the combined disclosure continues to fail to teach or suggest the Applicants' claimed yield of 2 tex or less. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,


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